## MAPPING EXCELLENCE Office of the State Engineer

The New Mexico Office of the State Engineer (OSE) won a prestigious award at the Environmental Systems Research Institute (ESRI) International Conference held in San Diego, California on July 6-11. The first place award for the "Best Instructional Presentation" featured a map poster illustrating the technical procedures required to plan and complete a Hydrographic Survey. The lead authors, Christina Noftsker and Elizabeth Ayarbe, collaborated with Mike Recker and Jaime Bustos to produce a winner that competed with approximately 1,500 entries. The conference was attended by over 11,000 mapping professionals from over 135 countries who use geographic information technologies.

The winners are part of the Lower Pecos Team from the Hydrographic Survey Bureau within the Legal Services Division of OSE. They are responsible for assessing, inventorying, mapping, and field checking sources of water, areas of water use, and water conveyance features. These tasks support the adjudication or legal identification of a water right. Through the use of sophisticated technology the Hydrographic Survey staff merge high quality aerial imagery and global positioning system satellite field mapping with historical water right lineage data to determine the most accurate characteristics of an individual's water

This is the second year the Office of the State Engineer has won an award for mapping excellence. New Mexico's investment into actively managing our water resources has produced an integrated system for mapping and analyzing water right information for the State. The agency is shouldered with a large mission. However, the accomplishments as reflected by these awards showcase the progress this agency has realized in a short time frame.



The winning team of Jaime Bustos, Christina Noftsker, Liz Ayarbe, and Mike Recker (left to right) present the award to John D'Antonio, New Mexico State Engineer (center).



# Geospatial Components of a Hydrographic Survey

Presented by New Mexico Office of the State Engineer, Hydrographic Survey Bureau





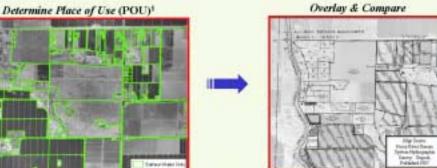
Quality Assurance & Quality Control

QA/QC POU and POD locations against.

owners' names and irrigation district tax roll.

OWANA Tracks by Obliganian

WRAPE: West higher delication Tracking States, bill Acres IV dealers ranges infrasplate short land territy, when right, and adjustment a study



Compare starrest irrigation patterns to histories

# Field Inspections

office, interview awaers, verify irrigation and well location with GPS7 coordinates, and digitally document.



Delineate verface water right, so right. reservoir, supplemental groundwater right, six.

COGO<sup>2</sup> deeds and compare with irrigated tracts.

Identify surface and groundwater Points of Diversion (POD)4, i.e. conveyances, springs, infiltration gallery, and



### Identify Additional Water Right Features



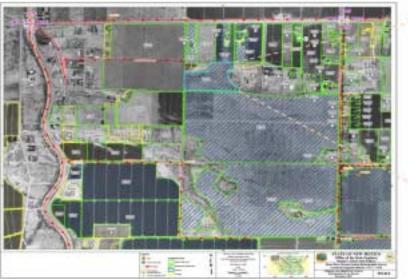


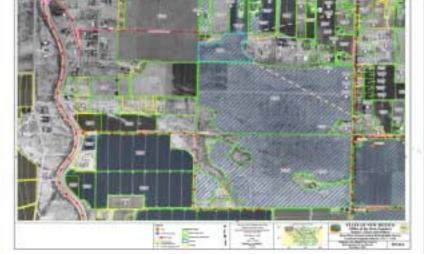


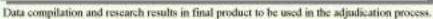


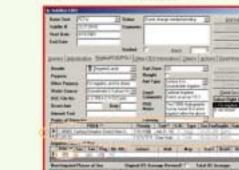
Vectorize features (POU, POD, conveyances) from creatified filing maps; identify tracks intigated by

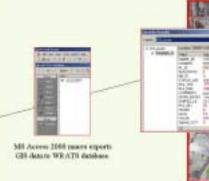
# Published Hydrographic Survey













Map both surface and proparlymer (supplemental) right

Status of Water Use

WILASS\* thanks a containe FOD and FOE information linked with the GIS for ambout and reporting

WRATS